

U.S. Application No. 09/855,003
Attorney Docket No. DE 2309.02 US

PATENT

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (CURRENTLY AMENDED) A magnetic position device for using in a driver, comprising:

a movable element having a first yoke assembly; and
a fixed element adjacent to said movable element for generating a magnetic field to control said movable element to be moved toward a predetermined position.

2. (ORIGINAL) The magnetic position device according to Claim 1, wherein said fixed element comprises:

a second yoke assembly;
a magnet assembly connected to said second yoke assembly for generating said magnetic field;
a first coil for generating a first motive force in a first direction in response to the magnetic flux of said magnetic field; and
a second coil for generating a second motive force in a second direction in response to the magnetic flux of said magnetic field.

3. (ORIGINAL) The magnetic position device according to Claim 2, wherein said second coil is perpendicular to said first coil.

4. (ORIGINAL) The magnetic position device according to Claim 2, wherein said second direction is perpendicular to said first direction.

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5. (ORIGINAL) The magnetic position device according to Claim 2, wherein said first coil and said second coil are wound around said second yoke assembly.

6. (ORIGINAL) The magnetic position device according to Claim 2, wherein said magnet assembly comprises a plurality of permanent magnets.

7. (ORIGINAL) The magnetic position device according to Claim 2, wherein said movable element is capable of being moved along said first direction by said first motive force acted on said first yoke assembly.

8. (ORIGINAL) The magnetic position device according to Claim 7, wherein said movable element is capable of being moved along said second direction by said second motive force acted on said first yoke assembly.

9. (ORIGINAL) The magnetic position device according to Claim 8, wherein said first coil is a tracking coil.

10. (ORIGINAL) The magnetic position device according to Claim 9, wherein said second coil is a focusing coil.

11. (ORIGINAL) The magnetic position device according to Claim 1, wherein said first yoke assembly comprises two yokes being mounted on two opposite sides of said movable element, respectively.

12. (ORIGINAL) The magnetic position device according to Claim 1, wherein said driver is a read/write head of optical read device.

13. (CURRENTLY AMENDED) The magnetic position device according to Claim 12, wherein said movable element comprises an optical lens.

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14. (CURRENTLY AMENDED) A magnetic position device for using in a driver, comprising:

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a movable element having a first yoke assembly; and
a fixed element adjacent to said movable element for generating a magnetic field and having coil assembly, wherein said coil assembly generates a motive force in response to the magnetic flux of said magnetic field to control said movable element to ~~moved~~ move toward a ~~predetermined~~ position.

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15. (ORIGINAL) The magnetic position device according to Claim 14, wherein said coil assembly comprises a focusing coil and a tracking coil.

16. (ORIGINAL) The magnetic position device according to Claim 14, wherein said fixed element further comprises a second yoke assembly and a magnet assembly connected with said second yoke to generate said magnetic field.

17. (CURRENTLY AMENDED) A position device capable of controlling the position of an optical lens for using in a driver, comprising:

a movable element having a first yoke assembly; and
a fixed element adjacent to said movable element for generating a magnetic field and having a coil assembly, wherein said coil assembly generates a motive force in response to the magnetic flux of said magnetic field, thereby controlling said optical lens to ~~moved~~ move toward a ~~predetermined~~ position.

18. (ORIGINAL) The position device according to Claim 17, wherein said optical lens is mounted in said movable element.

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19. (NEW) An objective lens driver, comprising:

a movable element having an objective lens attached thereto comprising a first yoke assembly; and

a fixed element adjacent to said movable element configured to generate a magnetic force to move said movable element toward a position, comprising:

a second yoke assembly;

a magnetic assembly comprising one or more permanent magnets connected to said second yoke assembly configured to generate said magnetic field;

a first coil configured to generate a first motive force in a first direction in response to the magnetic flux of said magnetic field; and

a second coil configured to generate a second motive force in a second direction in response to the magnetic flux of said magnetic field.

20. (NEW) An objective lens driver, comprising:

a movable element comprising:

an objective lens; and

one or more first yokes; and

a fixed element comprising:

one or more second yokes;

one or more permanent magnets;

focus coils for driving said movable element in a focus direction;

and

tracking coils for driving said movable element in a tracking direction.

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21. (NEW) An objective lens driver, comprising:

a movable element having attached thereto an objective lens but not having attached thereto a permanent magnet, a tracking coil, and a focusing coil.

22. (NEW) The objective lens driver of claim 21, further comprising:

a fixed element comprising said permanent magnet, said tracking coil, and said focusing coil so as to generate a magnetic flux which moves said movable element.

23. (NEW) An object lens drive, comprising:

a movable element having attached thereto an objective lens and a yoke; and

a fixed element adjacent to said movable element to form a gap therebetween and comprising a permanent magnet, a tracking coil, and a focusing coil for generating a magnetic flux across said gap which moves said movable element.

24. (NEW) A method for driving an optical lens, comprising the steps of:

providing a movable assembly having connected thereto an optical lens;
providing a fixed assembly having connected thereto a permanent magnet and coils; and

generating a magnetic flux between said movable assembly and said fixed assembly so as to move said movable assembly with respect to said fixed assembly.